

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

A427958382

FACILITY: KAYDON BEARING CO		SRN / ID: A4279
LOCATION: 2860 MC CRACKEN, MUSKEGON		DISTRICT: Grand Rapids
CITY: MUSKEGON		COUNTY: MUSKEGON
CONTACT: Greg Hutchison , Senior Manufacturing Engineer		ACTIVITY DATE: 05/03/2021
STAFF: Scott Evans	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: On-site air quality compliance evaluation.		
RESOLVED COMPLAINTS:		

Introduction

On Monday, May 3, 2021, State of Michigan Department of Environment, Great Lakes, and Energy (EGLE) Air Quality Division (AQD) staff member Scott Evans (SE) conducted an announced, on-site inspection of the Kaydon Corporation facility located at 2860 McCracken St. in Muskegon, Michigan, to assess compliance with air quality regulations outlined in opt-out Permit to Install (PTI) No. 172-97A and all other applicable air quality regulations. This inspection was announced in order to ensure proper staff presence and safety measures could be met during the ongoing COVID-19 pandemic. Throughout the inspection, proper pandemic safety measures such as facemasks and social distance were utilized.

Kaydon Corporation is a company that manufactures machine components used primarily in military land and aerospace vehicles. They also produce parts for other industries such as industry and medical. Multiple manufacturing processes such as machining, quenching, and heat treating are used at the facility to produce steel and steel alloy bearings as final products.

Evaluation

Upon arrival, SE noticed no visible emissions originating at the site. Additionally, there were no odors present around the exterior of the facility. After entering the building, SE was greeted by Manufacturing Engineers Greg Hutchison (GH) and Ron Ward (RW). After initial greetings and brief discussion of the intent of the visit, a walking inspection was conducted. All manufacturing lines, storage areas, and maintenance areas were viewed. Additionally, the roof was accessed during the inspection. Records required to be kept by the facility as outlined in PTI (reviewed in detail below) were sent to SE and reviewed remotely in order to facilitate minimized contact during the ongoing COVID-19 pandemic.

PTI No. 172-97A

PTI No. 172-97A is the only currently active permit assigned to this facility. It outlines special conditions for two emission units (EUDIPPROCESS, and EUMAGNAFLUX) and one flexible Group (FGFACILITY). This is an opt-out permit with included limits to emission units and flexible groups.

EUDIPPROCESS

This emission unit is described as containing two nital etch processes and one passivation process. Each contains multiple dip tanks with various chemicals or solutions for the associated manufacturing processes. This unit also encompasses two stacks (SVNDT1 and SVNDT2).

This emission unit has one emission limit: 6.0 tons per year (tpy) of methanol emitted per 12-month rolling time period. During the inspection, the facility representatives were aware of this limitation.

The emission unit is required to have covers on each tank when not in use. During the inspection, it could clearly be seen that each tank was appropriately covered as none were in use at the time.

The following records are required to be maintained by the facility regarding EUDIPPROCESS:

- Monthly records of use of the following chemicals:
 - Nitric acid
 - Hydrochloric acid
 - Picric acid
 - Sodium Hydroxide
 - Potassium Hydroxide
 - Methanol
- Annual methanol use calculated on a 12-month rolling time period.

At the request of SE, the necessary records were provided remotely for review for the period of January 2020 – March 2021. The following assessments were made from the document review regarding the above requirements:

- Appropriate monthly records were provided with the following highest recordings:
 - 256 oz Nitric acid in September 2020
 - 200 oz Hydrochloric acid in February 2021
 - No Picric acid use reported during the provided time period.
 - 247 oz Sodium hydroxide in February 2021
 - 2 oz Potassium hydroxide in February 2021
 - 0.2 tons Methanol used in February 2021
- 1.2 tpy Methanol used from March 2020 through February 2021.

As demonstrated by the records, the necessary information has been retained. The 12-month rolling annual time period records for methanol demonstrate compliance with the emission limit for methanol of 6 tpy with the highest 12-month recorded value being 1.2 tpy.

While inspecting the roof of the facility, SE was able to observe the stacks outlined in the permit. Though the stacks were not measured, visual inspection appeared to indicate that the stacks were compliant with required dimensions of 24" in diameter and 36' above ground level.

EUMAGNAFLUX

This emission unit is described as including inspection equipment that uses kerosene containing material for assisting in magnetizing parts for inspection. There is no associated stack.

The only special conditions associated with this unit are the below listed records that are required to be kept:

- Monthly records of:
 - Gallons of Materials used
 - Volatile Organic Compound (VOC) content of each material used
 - VOC emissions calculated with mass balance
 - VOC emissions per 12-month rolling annual time period.

- Manufacturer data on composition of each chemical in use.

During the inspection SE was able to confirm retention of manufacturer chemical data, gallons of each material used, and VOC content of each material. VOC emission data was requested remotely for closer review. The requested data was provided for the time period from January 2020 – March 2021.

As this permit does not include VOC emission limits for this emission unit as an isolated entity a deeper analysis of VOC emissions will be conducted later in the report in reference to emission limits established for the flexible group FGFACILITY.

FGFACILITY

This is the only flexible group described in the permit. It is described as including all process equipment including equipment in other permits (there are no other active permits for this facility), grand-fathered equipment, and exempt equipment.

This group has three emission limits that limit HAP and VOC emissions to opt-out of Title V permitting:

- 9.0 tpy of each individual Hazardous Air Pollutant (HAP) per 12-month rolling annual time period.
- 2.25 tpy of aggregate HAPs per 12-month rolling annual time period.
- 80.1 tpy of VOCs per 12-month rolling annual time period.

The flexible group requires that the facility verify HAP and VOC content of each material used. This can be done through use of manufacturer formulation data, which is the method used by the facility. This is acceptable and at this time there is no need for any other testing to be conducted.

The following records are required to be maintained by the facility in regard to the flexible group:

- Records must be complete by the 15th day of each month for the previous month.
- Records for HAPs as follows:
 - Gallons or pounds of each HAP containing material used
 - HAP containing material reclaimed (if applicable)
 - HAP content of each material
 - Monthly HAP emissions (individual and aggregate)
 - 12-month rolling annual HAP emissions (individual and aggregate)
- Records for VOCs as follows:
 - Gallons or pounds of each VOC containing material used
 - VOC containing material reclaimed (if applicable)
 - VOC content of each material used.
 - Monthly VOC emissions
 - 12-month rolling annual VOC emissions.

Upon request, the facility provided records for the above information for the period of January 2020 – March 2021. It appears records are retained in a timely manner as required by the permit. Gallons of material used and HAP and VOC content for each material were being recorded and can

be seen on the included documents. The following highest emissions were determined during analysis of the provided records:

- HAP Records:
 - 0.2 tons of Methanol in February 2021
 - 0.3 tons of aggregate HAPs in February 2021
 - 2 tons from Methanol from July 2019 through June 2020
 - 4 tons aggregate HAPs from September 2019 through August 2020
- VOC Records:
 - 0.5 tons emitted in April 2020
 - 7.8 tons emitted from February 2019 through January 2020

These maximum recorded values are within the required limits outlined above and demonstrate compliance both with recordkeeping requirements and emission limits.

Other Items

The facility has multiple cold cleaners that were covered when viewed during the inspection. These cleaners are exempt from permitting by Rule 281(2)(h).

The facility has multiple units including heat treatment units and quenching tanks that are grandfathered units and so are not required to be included in the existing permit.

The facility has one baghouse on site. This baghouse is not used always, only at times when machining is causing increased particulate matter presence in the facility interior to improve comfort for working employees. This baghouse is exempt from permitting under rule 285(2)(f).

The facility has one boiler on site rated to 3.6 mmBTU. This boiler only serves to heat the in-plant environment for employee comfort. This unit is exempt from permitting requirements under rule 282(2)(a).

Conclusion

At the conclusion of this inspection, the facility appears to be compliant with PTI No. 172-97A and all other applicable air quality regulations.

NAME Scott Evans DATE 6/10/2021 SUPERVISOR HH